

## UCON Lubricant Base Stocks

Application of:

Zai-Ming Qiu

Serial No. 09/803,708

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## EXHIBIT A



## UCON™ Fluids Products &amp; Applications

## UCON Lubricant Base Stocks

- UCON base polymers are polyalkylene glycols (PAGs)—linear polymers of ethylene and propylene oxides with the generalized formula:



## Polymer Nomenclature

Each of the UCON base polymers is designated by letter and number symbols, which identify it by chemical structure, viscosity, and additives.

## Chemical Structure

The prefix or series symbol identifies the chemical structure of the series:

- **LB Fluids** are alcohol (ROH)-started polymers of all oxypropylene groups ( $m = 0$ ). LB Series products are available in a range of molecular weights and viscosities. LB Series products are water insoluble and have one terminal hydroxyl group.
- **50-HB Fluids** are alcohol-started polymers containing equal amounts by weight of oxyethylene and oxypropylene groups. 50-HB Series products are also available in a range of molecular weights and viscosities. 50-HB Series products are water soluble at temperatures below 40°C and have one terminal hydroxyl group.
- **75-H Fluids** are diol-started polymers containing 75 weight percent oxyethylene and 25 weight percent oxypropylene groups ( $m > n$ ). 75-H Series products are also available in a range of molecular weights and viscosities. 75-H Series products are water soluble at temperatures below 75°C and have two terminal hydroxyl groups ( $R = H$ ).

## Viscosity

Viscosity in Saybolt Universal Seconds (SUS) at 38°C (100°F) is designated by the number group that follows the series symbol. Example: LB-285 has a viscosity of 285 SUS at 38°C (100°F).

## Additives

The letter and code number, if any, following the viscosity designation shows the presence of an additive or additives. Types of additives used with UCON Fluids include oxidation inhibitors, lubricity and extreme-pressure modifiers, and corrosion inhibitors—both ferrous and non-ferrous types (e.g., LB-300-X). LB, 50-HB, or 75-H Series products contain no additives when the letters X or Y are not used.

In Europe, Dow also offers SYNALOX® Water Soluble Lubricant Base Stocks and SYNALOX Water Insoluble Base Stocks to meet a broad spectrum of applications.

## Products &amp; Applications

UCON Lubricant Base Stocks  
 UCON Formulated Lubricants  
 UCON Functional Fluids  
Fire-Resistant Hydraulic Fluids (Hydrokubes)  
Fire-Resistant Hydraulic Fluids (Anhydrous)  
Hydraulic Fluids  
Coating Fluids for Brake Parts  
Metaworking Fluids and Lubricants  
Heat Transfer Fluids  
Process Fluids  
Solder Assist Fluids  
Quenchants  
 UCON Lubricants  
High-Temperature Lubricants  
Compressor Lubricants  
Refrigeration Lubricants  
Machinery Lubricants  
Food Grade Lubricants  
2-Cycle Engine Lubricants  
Rubber Lubricants  
Mill and Calendar Lubricants  
Greases and Solid Lubricant Dispersions  
Textile Fiber Lubricants  
Textile Machine Lubricants  
UCON Fluids Special Uses